April 19, 2010

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554
Via Electronic Filing

Re: *Written Ex Parte Communication*, WC Docket 07-245

Dear Ms. Dortch,

PCIA—The Wireless Infrastructure Association ("PCIA") and the DAS Forum, a membership section of PCIA, respectfully request that the Commission take action to ensure wireless attachers have timely, non-discriminatory access to utility poles at reasonable rates. The NATIONAL BROADBAND PLAN recognizes that improving utilization of existing infrastructure, such as utility poles, "can improve the business case for deploying and upgrading broadband network infrastructure and facilitate competitive entry."[1] The existing record is sufficient for the Commission to take action to improve utilization of utility poles for the deployment of Distributed Antenna Systems ("DAS"), which will speed the deployment of wireless broadband services.

Specifically, the record in the above captioned docket is sufficient for the Commission to take the following actions:

- Confirm that wireless carriers, including DAS providers, have the right to attach antennas to the tops of utility poles.

- Establish that NESC and OSHA are default safety and operational standards for wireless equipment attachments,[2] and wireless equipment

[1] FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN 109 (Mar. 16 2010) ("NATIONAL BROADBAND PLAN").

[2] As used herein, the phrase "wireless attachment" or "wireless equipment" means and includes all of the equipment comprising a DAS node, including but not limited to the antenna, radio amplifier or remote radio head, signal conversion or processing equipment, power supply and related items such as connecting cabling, switches, support

attachments meeting NESC, OSHA, and FCC rules are presumptively safe.

- Establish that utility pole owners and attachers have three months to create enhanced safety and operational standards for equipment attachments in cooperation with DAS providers. Absent the establishment of reasonable enhanced standards, wireless applications should be approved based on site drawings with appropriate structural, ice and wind loading evaluations.

- Require pole owners to provide make-ready estimates for attachments within 45 days of receipt of an application, issue attachment permits within 60 days of receipt of the make-ready payment for builds that do not require pole replacement, and within 90 days for poles where replacement is necessary.

- Establish reasonable rates for wireless attachments based on the telecommunications rate.

In addition to offering support for each of these actions, this letter also responds to questions raised on the record by utilities about wireless attachments—which have largely already been answered on the record[3]—and includes an example of a pole owner's master agreement for wireless attachments.

I. DAS IS AN INTEGRAL PART OF THE NATIONAL WIRELESS INFRASTRUCTURE, BROADBAND, AND PUBLIC SAFETY STRATEGIES

DAS is a network architecture that supplements traditional macro-level wireless infrastructure siting, such as towers, through a system of spatially separated antenna nodes connected to a common source via a transport medium that provides wireless service within a geographic area or structure. In outdoor environments, DAS antennas are typically mounted on

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brackets, equipment enclosures, etc., and any other communications equipment that a DAS provider may need to attach to a pole. This term is not intended to be limited to the antennas or other radio frequency equipment.

[3] *See* Attachment A. *See, e.g.*, Reply Comments of NextG Networks, WC Docket No. 07-245, RM-11293, RM-11303, at 15–21 (filed Apr. 22, 2008) ("*NextG Reply Comments*"). For example, NextG notes "questions about clearances between antennas and power lines have been answered by NESC Rule 2351; questions about pole loading have been answered by Sections 24 - 26 of the NESC; questions about RF emissions are addressed by 47 C.F.R. § 1.1310 and OET Bulletins 56 and 65; and questions about OSHA requirements have been answered by existing OSHA regulations, 29 C.F.R. §§ 1910.97 and 1910.268."

existing structures, primarily utility poles.[4] The ability to provide improved coverage, increased capacity, and improved spectrum efficiency makes DAS an important element of national wireless infrastructure, broadband and public safety strategies. Utility pole owners, however, often unreasonably impede the deployment of DAS.[5]

The Commission has consistently recognized the importance of innovative wireless infrastructure and the services it enables.[6] The NATIONAL BROADBAND PLAN embraces this recognition, and establishes the goal of the United States "lead[ing] the world in mobile innovation, with the fastest and most extensive wireless networks of any nation."[7] DAS is a vital infrastructure component in this effort because it is effective in areas where traditional macro-sites are infeasible. These include, for example, areas with topography and environmental concerns that make macro-level siting difficult, densely populated areas where macro-level sites are ineffective, and increasingly, residential areas where macro-sites are effectively infeasible or inappropriate.

[4] This document focuses exclusively on outdoor DAS, which is referred throughout simply as DAS.

[5] Some utilities argue that despite the impediments they impose on wireless attachments, broadband deployment has not suffered. *See, e.g.*, Reply Comments of Utilities Telecoms Council and Edison Electric Institute, GN Docket No. 09-51, WC Docket No. 07-245, at 5 (filed July 21, 2009) ("*UTC & EEI Reply Comments*") (arguing that the Commission has "consistently concluded that broadband deployment is occurring on a reasonable and timely basis"). The NATIONAL BROADBAND PLAN more accurately states the current broadband environment: "Due in large part to private investment and market-driven innovation, broadband in America has improved considerably in the last decade. . . . Yet there are still critical problems that slow the progress of availability, adoption and utilization of broadband." NATIONAL BROADBAND PLAN at 3.

[6] *See, e.g.*, Statement of Commissioner Michael Copps, *In re* Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify all Wireless Siting Proposals as Requiring a Variance, *Declaratory Ruling*, WT Docket No. 08-165 (Nov. 18, 2009) ("*Declaratory Ruling*") (stating that "[b]uilding wireless broadband infrastructure—and building it expeditiously—is integral to our nation's success in too many ways to recount here this morning. Nor do we have to go beyond the obvious in pointing out how urgent it is to have tower infrastructure in place to support all this."); *In re* Implementation of Section 6002(B) of the Omnibus Budget Reconciliation Act of 1993, *Notice of Inquiry*, 24 FCC Rcd 11357 (Aug. 27, 2009) (referring to national wireless infrastructure as "vitally important" and noting that "[a] vibrant mobile wireless market is also essential to driving innovation"); *In re* Petition by Forest Conservation Council, American Bird Conservancy and Friends of the Earth for National Environmental Policy Act Compliance, *Memorandum Opinion and Order*, 21 FCC Rcd 4462 (Apr. 11, 2006) (statement of Comm'nr Jonathan S. Adelstein) (noting that "communication towers represent a critical component in the continued deployment of basic and advanced telecommunications services throughout the country"); NATIONAL BROADBAND PLAN at 9–10.

[7] NATIONAL BROADBAND PLAN at 9.

For example, a DAS Forum member partnered with a wireless provider to deploy DAS in a residential area outside of Houston, Texas where the residents of the community sought to improve wireless access while minimally impacting the aesthetics of the community.[8] DAS significantly improved coverage in the community with a minimal impact because it was deployed on existing infrastructure.[9] Another DAS Forum member partnered with a service provider in Philadelphia, Pennsylvania to provide a DAS solution covering approximately 100 square miles, including densely populated areas and historical districts, adding coverage and capacity.[10]

The Commission and Congress have recognized a growing and significant deficit of spectrum sufficient for wireless service providers to meet future capacity and coverage demands, specifically for wireless broadband services.[11] As a supplement to macro-level siting, DAS is a near-term solution to the dearth of spectrum for wireless communications and wireless broadband. DAS increases capacity and coverage through the use of many antennas, each with a relatively small and localized footprint. Utilizing many antennas with isolated signals allows each antenna in a given deployment to use the same spectrum bands.[12]

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[8] ExteNet Systems, Case Studies, http://www.extenetsystems.com/servingourcustomers/casestudies.html (last visited Mar. 31, 2010).

[9] *Id.*

[10] NextG Networks, Case Study, Philadelphia, http://www.nextgnetworks.net/communities/philadelphia.html (last visited Mar 31, 2010).

[11] *See* Prepared Remarks of Chairman Julius Genachowski, FCC, *America's Mobile Broadband Future*, International CTIA Wireless I.T. & Entertainment 4 (Oct. 7, 2009), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293891A1.doc; *Declaratory Ruing* at 14032 (Statement of Comm'nr Robert M. McDowell) ("I fully agree that identifying additional bandwidth for long-term growth is a necessary and worthy endeavor . . . ."); John Eggerton, Boucher: Finding More Wireless Spectrum key Congressional Priority, Broad. & Cable, Jan. 27, 2010, http://www.broadcastingcable.com/article/446177-Boucher_Finding_More_Wireless_Spectrum_Key_Congressional_Priority.php (reporting on an address delivered by House Commerce Committee Subcommittee on Communications, Technology, and the Internet Chairman Rick Boucher). Both the U.S. Senate and the House of Representatives are considering legislation that would require the FCC and NTIA to conduct a spectrum inventory in order to identify spectrum that may be freed for commercial wireless use. *See* Radio Spectrum Inventory Act, S.649, 111th Cong. (2009); Radio Spectrum Inventory Act, H.R. 3125, 111th Cong. (2009).

[12] *See* Comments of NextG Networks, WC Docket No. 07-245, RM-11293, RM-11303, at 3 & n.1 (filed Mar. 7, 2008) ("*NextG Comments*") ("Capacity in cellular network comes, in general, from reusing spectrum. The greater

The Commission recognizes the public safety benefits provided by wireless pole attachments.[13] Citizens and first responders alike reap these benefits. As the rate of wireline-to-wireless substitution grows and more consumers rely exclusively on mobile wireless devices for accessing emergency services, the need for ubiquitous wireless coverage grows, especially in residential areas.[14] A recent survey by the National Emergency Number Association found that, of the 911 and emergency service agencies responding, 55% utilize wireless broadband services.[15] The impact of DAS on public safety is clear—wireless access is critical for consumers and first responders, and DAS serves this critical need with enhanced coverage and increased capacity.

Some utility pole owners work cooperatively with DAS providers to facilitate the attachment of wireless antennas on poles, and there are many successful DAS deployments across the country. However, despite the noted benefits of DAS—facilitating wireless service in difficult-to-serve areas, improving spectrum efficiency, and enhancing public safety—some pole owners unnecessarily impede its deployment.

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the number of radiating elements, the more often spectrum can be reused and the more capacity the network will have.").

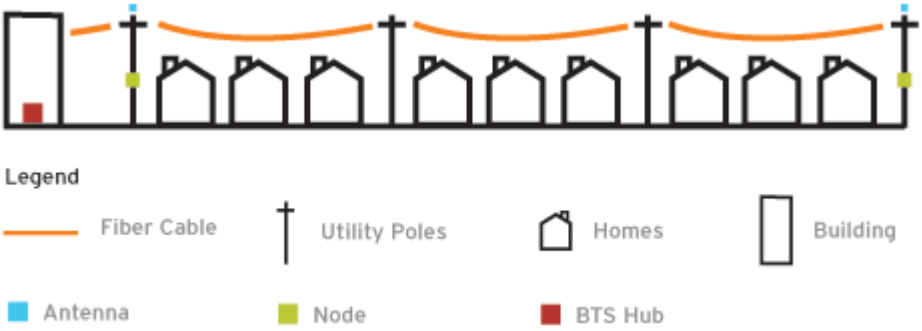
[13] *In re* Wireless Telecommunications Bureau Reminds Utility Pole Owners of Their Obligations to Provide Wireless Telecommunications Providers With Access to Utility Poles at Reasonable Rates, *Public Notice*, 19 FCC Rcd 24930 (Dec. 23, 2004) ("*2004 Public Notice*") ("Providing wireless carriers with access to existing utility poles facilitates the deployment of cell sites to improve the coverage and reliability of their wireless networks in a cost-efficient and environmentally friendly manner. Such deployment will promote public safety, enable wireless carriers to better provide telecommunications and broadband services, and increase competition and consumer welfare in these markets.").

[14] STEPHEN J. BLUMBERG, PH. D. & JULIAN V. LUKE, NATIONAL CENTER FOR HEALTH STATISTICS, CENTERS FOR DISEASE CONTROL, WIRELESS SUBSTITUTION: EARLY RELEASE OF ESTIMATES FROM THE NATIONAL HEALTH INTERVIEW SURVEY, JANUARY – JUNE 2009, at 1 (Dec. 16, 2009), http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless200912.pdf ("More than one of every five American Homes (22.7%) had only wireless telephones . . . during the first half of 2009—an increase of 2.5 percentage points since the second half of 2008.").

[15] National Emergency Number Association, 9-1-1 & Emergency Services Broadband Usage Survey, at 7 (Nov. 2009), http://www.nena.org/sites/default/files/Broadband%20Usage%20SurveySummary_11122009.pdf.

II. THE COMMISSION SHOULD CONFIRM THAT DAS OPERATORS ARE ENTITLED TO ACCESS UTILITY POLES AND POLE TOPS

DAS network architecture relies on the ability to place antennas at regular intervals at elevations of approximately 30 to 40 feet above ground level.[16] The antenna nodes are typically linked to a central location or hub via fiber optic cable placed in the communication space of the utility pole.



Source: ExteNet Systems, http://extenetsystems.com/ourproducts/outdoordas.html

By locating antennas at the tops of utility poles, DAS providers are able to utilize existing infrastructure that is already capable of accommodating the attachment. Additionally, by attaching to existing utility poles—as opposed to the costly and time consuming alternative of installing additional new poles—DAS networks impose minimal additional aesthetic and safety impacts on the communities in which they are deployed.

Pole-top access is essential to leverage existing infrastructure and spectrum resources efficiently. Pole-top installations are typically at the optimal elevation for DAS antennas. If the antennas are lower, the coverage footprint will be too small, and the provider will be forced to install additional antenna nodes to achieve the same coverage.[17] The installation of additional nodes increases the cost of the deployment and requires additional antenna infrastructure that

[16] *See, e.g.*, ExteNet Systems, Outdoor DAS, http://extenetsystems.com/ourproducts/outdoordas.html (last visited Mar. 31, 2010).

[17] *See* Comments of MetroPCS, WC Docket No. 07-245, RM-11293, RM-11303, at 6 (filed Mar. 7, 2008) ("*MetroPCS Comments*"); Comments of the DAS Forum, WC Docket No. 07-245, RM-11293, RM-11303, at 11–12; Comments of CTIA, WC Docket No. 07-245, RM-11293, RM-11303, at 12 (filed Mar. 7, 2008) ("*CTIA Comments*"); *NextG Comments* at 3.

would otherwise be unnecessary.[18] Despite the reality that the law mandates access to utility poles for telecommunications facilities attachments—including wireless equipment—the ability to locate DAS antennas and related node equipment on poles, and especially antennas on pole tops, is persistently challenged by pole owners.[19]

The Supreme Court has affirmed the Commission's finding that wireless attachers are "telecommunications carriers" under the Act, therefore entitling them to nondiscriminatory access to utility poles at the telecommunications rate under section 224.[20] Further, the Commission has declined "to establish a presumption that space above . . . 'communications space' on a pole may be reserved for utility use only."[21] Yet, some pole owners explicitly deny access to poles or pole tops,[22] or engage in protracted multi-year negotiations in order to stall or effectively prohibit deployment.

A DAS Forum member reports that a utility pole owner refused to allow access for DAS antennas and instead recommended that the DAS operator install its own poles across the street from the existing poles. Not only is this solution impractical, it also imposes an aesthetic and safety burden on the community. Another DAS Forum member reports that a pole owner issued

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[18] Letter from PCIA—The Wireless Infrastructure Association and The DAS Forum, to Connecticut Department of Public Utility Control, at 3–4 (Apr. 23, 2009), http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/20dce5d12e27c1ce852575a100693eaf/$FILE/PCIA%20DAS%20Forum%20CT%20DPUC%20interrogatory%20responses%204%2023%2009.pdf ("Theoretically, in flat terrain without any "clutter" (radiofrequency "absorbers" and "reflectors" such as trees and buildings), the reduced height of the communications space mounting represents a squaring of the number of antennas required to provide uniform coverage over a given area. For example, instead of four (4) antennas at the pole top, sixteen (16) antennas would be required in the communications space."

[19] *See UTC & EEI Reply Comments* at 56 (asserting that the Commission "should reject requests that the Commission establish a rebuttable presumption favoring access for pole top antennas"); Comments of Edison Electric Institute and Utility Telecom Council, WC Docket No. 07-245, RM-11293, RM 11303, at 59 (filed Mar. 7, 2008) ("*UTC & EEI Comments*") (arguing that the Commission "should not adopt a set of one-size-fits-all access rules that would inappropriately favor expedient [wireless attachment] access").

[20] *In re* Amendment of the Commission's Rules and Policies Governing Pole Attachments, *Report and Order*, 13 FCC Rcd 6777, ¶¶ 39–41 (Feb. 26, 1998); *aff'd* NCTA v. Gulf Power, 534 U.S. 327, 340–42 (2002).

[21] *2004 Public Notice.*

[22] *See DAS Forum Comments* at 8 (describing electric utilities in Hawaii that "have told DAS Forum members that they will not permit *any* wireless antennas to be placed on their poles for 'safety reasons.'"); Comments of Crown Castle, WC Docket No. 07-245, RM-11293, RM-11303, at 5 n.15 (filed Mar. 7, 2008) ("*Crown Castle Comments*") (explaining that Allegheny Power prohibited pole-top attachments).

a blanket denial to pole top access after almost two years of negotiations. In addition to these types of blanket refusals, DAS Forum members report unnecessarily prolonged negotiations with pole owners.

A DAS Forum member reports that negotiations with several pole owners have lasted up to two years, while another member reports receiving a blanket rejection to pole top access after a nine-month negotiation, which severely impacted the project timeline and third-party commitments. In issuing the denials to access generally—and pole tops specifically—utility pole owners often cite unfounded safety and reliability concerns, despite recognized safety standards and the lack of scientific or even anecdotal evidence of safety problems with existing wireless attachments.[23]

III. TO ENSURE TIMELY ACCESS, THE COMMISSION SHOULD ESTABLISH A DEFAULT SAFETY STANDARD, REASONABLE TIME PERIODS TO DEVELOP ENHANCED STANDARDS, REASONABLE MAKE-READY TIME FRAMES, AND REASONABLE RATES

As demonstrated, DAS is an integral component of national wireless infrastructure, broadband, and public safety strategies. DAS operators are allowed nondiscriminatory access to utility poles by statute, a right that is often violated based on unfounded and vague safety and reliability concerns. Consistent with many other commenters in this docket, the DAS Forum suggests that to ensure the deployment of DAS is not impeded going forward, the Commission should adopt existing industry safety standards as default safety standards, establish a presumption that attachments that meet NESC and OSHA requirements are safe, adopt

[23] *See* Comments of the Coalition of Concerned Utilities, WC Docket No. 07-245, RM-11293, RM-11303, at 44–48 (filed Mar. 7, 2008); Ex Parte of the Coalition of Concerned Utilities, WC Docket No. 07-245, GN Docket No. 09-29, at 13–17 (filed May 1, 2009) ("*Concerned Utilities May 2009 Ex Parte*"); *UTC & EEI Comments* at 31; Comments of Alabama Power, Georgia Power, Gulf Power, and Mississippi Power, WC Docket No. 07-245, RM-11293, RM-11303, at 34–35 (filed Mar. 7, 2008). *See also* Comments of Florida Power & Light, Tampa Electric, and Progress Energy Florida, WC Docket No. 07-245, RM-11293, RM-11303, at 16–17 ("*Florida Electric Utilities*"). While the comments of Florida Electric Utilities include declarations by a professional engineer and an energy company employee to support claims regarding wireless attachments, the declarations merely contain unsupported assertions. *Florida Electric Utilities Comments* at Attachment A para. 11; Attachment B para 11.

reasonable time frames to develop enhanced safety and installation standards, and establish reasonable make-ready time frames and rates.[24]

A. The Commission Should Establish that the NESC and OSHA Provide Default Safety and Operational Procedure Standards for Wireless Attachments, and Wireless Attachments that Meet Relevant Standards are Presumptively Safe

The status quo, which pole owners seek to perpetuate, is a presumption that wireless attachments as a whole are unsafe and threaten reliability. The status quo does not reflect reality; the record contains no specific evidence that wireless attachments are unsafe or threaten reliability. The Commission should establish that the NESC and OSHA provide default safety standards that wireless attachers and utility pole owners may enhance through the development of an internal standard. The Commission should also establish that wireless attachments that have been certified by the FCC and comply with NESC, OSHA, and other relevant standards are presumptively safe.

To be clear, the DAS Forum is not asking the Commission to preempt utility pole owners' rights under section 224(f)(2) to deny access based on safety and reliability concerns. The DAS Forum is asking the Commission to enforce the rights of DAS operators under section 224(f)(1) to nondiscriminatory access to utility poles by establishing default safety and operational standards.

The DAS Forum proposes that utility pole owners and wireless attachers should cooperate to establish any enhanced safety and operational standards within a reasonable time period. Utility pole owners will retain the right to challenge the safety and reliability of

[24] *See NextG Comments* at 33 (requesting that the Commission adopt a "rebuttable presumption that wireless attachments that comply with the NESC and relevant FCC and OSHA regulations must be permitted on utility poles"); Reply Comments of T-Mobile, WC Docket No. 07-245, RM-11293, RM-11303, at 6 (filed Apr. 22, 2008) ("*T-Mobile Reply Comments*") (noting that "wireless and utility stakeholders agree that the public interest would be served by adopting the presumption that wireless attachments compliant with applicable National Electric Safety Code ('NESC') . . . are also consistent with safety"); *Crown Castle Comments* at 5 (asserting that "the Commission should adopt a presumption that pole-top antennas constructed consistent with the NESC code are safe").

individual attachments on a case-by-case basis under section 224(f)(2). This is what section 224 contemplates.[25]

Some utility pole owners argue that the Commission should not adopt the NESC as a safety "ceiling," and instead allow each utility to set its own standard.[26] The DAS Forum maintains that NESC and OSHA standards are sufficient to ensure the safe installation and operation of DAS networks. In practice, it is not uncommon—although becoming less so—for a pole owner to lack an internal wireless attachment standard. Nonetheless, some pole owners without an internal wireless attachment standard will approve a wireless attachment application based on fully engineered drawings and structural, ice and wind loading analysis provided by a DAS company on a pole-by-pole basis so long as the request complies with the NESC.

The NESC and OSHA standards are not a ceiling; they are a default from which enhanced standards may be established. By setting the NESC and OSHA as the default operational and safety standards, the Commission can ensure that DAS deployments are not delayed by unreasonable denials based on unfounded safety concerns.

Further, by establishing that wireless attachments that have been certified by the FCC and comply with NESC, OSHA, and other relevant standards are presumptively safe, the Commission can streamline the negotiating process by taking a resolved issue off the table. DAS antennas are certified by the FCC,[27] and operate within allowable limits and do not impose reliability threats based on radiofrequency interference. DAS providers can provide pole owners with detailed engineering drawings and a full analysis showing adequate structural, ice and wind loading before attaching. If the equipment is NESC and OSHA compliant, utility pole owners lack any relevant basis upon which to claim that wireless attachments are unsafe or threaten

[25] 47 U.S.C. § 224(f).
[26] *See* Ex Parte by Oncor Electric Delivery, Florida Power & Light Co., Tampa Electric Co. & Progress Energy Florida, GN Docket No. 09-51, WC Docket No. 07-245, WC No. Docket 09-154, at 6–9 (filed Dec. 3, 2009).
[27] 47 C.F.R. § 1.1310 (2009).

liability. By making these two determinations, the Commission can remove a significant barrier to DAS deployments.

B. The Commission Should Allow Utility Pole Owners and DAS Operators Three Months to Develop Enhanced Safety and Operational Standards.

When seeking to attach to a utility pole, DAS Forum members work with utility pole owners to set safety and operational standards. When a pole owner refuses to reasonably discuss safety and operational standards, this discussion can be a significant bottleneck in the deployment of DAS. As established, a delay in the deployment of DAS is a delay in the rollout of new and expanded wireless voice and broadband services. Setting NESC and OSHA as default safety standards is a positive step to easing this delay, but additional steps must be taken.

The DAS Forum recognizes that some utility pole owners may not have experience accommodating wireless attachments, but inexperience is sometimes used as an excuse for unnecessary delays and denials in form. Nonetheless, the DAS Forum recognizes that utility pole owners may have unique safety and operational concerns, and wants to work with utility pole owners to alleviate these concerns.

The DAS Forum asks the Commission to allow three months for a utility company to develop its own reasonable enhanced safety and operational standards for wireless equipment attachments, if the pole owner does not have such an existing standard. The three-month period should begin upon a DAS provider's formal request to attach. If the utility has not developed a standard within three months, absent bad faith by the DAS provider, the applications should be approved based on the NESC compliant engineering drawings and full structural, ice and wind loading analysis. The project will then proceed through make-ready, installation, and operation using NESC and OSHA as the safety and operational standards if the utility has not developed additional standards during this timeframe.

DAS Forum members report a three-month negotiation period is practical, feasible, and in fact met by some pole owners that do allow DAS attachments. Indeed, a DAS Forum member reports working with one electric utility on its own internal standard for two-to-three months, which included full review of the construction and installation standards by the safety, operations, and standards groups.

Further, as the number of wireless antenna installations grow, the amount of time necessary to develop enhanced standards will decrease—the standards will move towards uniformity. These installations are not only coming from DAS providers. Wireless antennas are also an integral component of smart grid technologies. As the deployment of smart grid, DAS, and other utility wireless attachments[28] increases, the utility pole owners will move towards uniform safety and operational standards for wireless attachments. If a utility pole owner fails to develop an enhanced standard in three months, the DAS make-ready, installation, and operation should proceed under NESC and OSHA standards.

C. The Commission Should Establish Reasonable Time-frames for Attachment Make-ready

Even if DAS providers are allowed to attach, and even if they come to an agreement with the pole owner on construction and installation standards, the make-ready process imposes further unnecessary delays that the Commission should remedy. Delays in make-ready work are not exclusive to wireless attachers; the record in this docket is replete with examples from wireline attachers and wireless attachers alike.[29] The NATIONAL BROADBAND PLAN recognizes

[28] Utilities frequently place wireless antennas and related equipment on utility poles, usually in the form of a supervisory control and data acquisition system ("SCADA"). A SCADA system is "used to monitor and control a plant or equipment in industries such as telecommunications, water and waste control, energy, oil and gas refining and transportation. . . . Wireless technologies are now being widely deployed for purposes of monitoring." National Communications System, Technical Information Bulletin 04-1, Supervisory Control and Data Acquisition (SCADA) Systems 4 (2004), http://www.ncs.gov/library/tech_bulletins/2004/tib_04-1.pdf.

[29] Comments of Sunesys, WC Docket No. 09-154, WC Docket No. 07-245, GN Docket No. 09-51, at 2–3 (filed Sep. 24, 2009) ("*Sunesys Comments*") (noting "incessant utility delays in the provision of pole attachments" and that broadband services are "undermined by such delays"); Ex Parte by FiberNet, GN Docket No. 09-51, WC Docket

this delay and recommends a "comprehensive timeline for each step of the Section 224 access process."[30]

Pole owners should provide make-ready estimates for wireless attachments within 45 days of receipt of the attacher's application.[31] Pole owners should then issue the attachment permit within 60 days of receipt of the make-ready payment for builds that do not require pole replacement, and within 90 days for poles where replacement is necessary. Further, the electric utility should provide power to the DAS installation upon request.[32]

As is well-documented in this docket by the DAS Forum, its members individually, and other attachers, these timelines are feasible.[33] Several states that have exercised reverse preemption over pole attachments have similar make-ready timelines.[34]

If the pole owner fails to issue the permit within the timeline, the attacher should have the right to utilize utility-approved third-party contractors to complete the installation and make-ready work. DAS providers utilize only certified linemen for work above the power space on utility poles. These third-party linemen are well qualified to complete DAS installations, and in

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No. 07-245, at 18 (filed Sep. 16, 2009) (explaining that a lack of coordination between make-ready work and transfers results in significant delays); Reply Comments of Fibertech, WC Docket No. 07-245, RM-11293, RM-11303, at 22 (filed Apr. 22, 2008) (noting that deadlines in the make-ready process are "necessary to ensure that access is not unreasonably delayed and to allow providers to make necessary commitments to potential customers"); Comments of 360networks, WC Docket No. 07-245, RM-11293, RM-11303, at 11 (filed Sep. 19, 2008) (explaining that timeframes are necessary because when a "carrier cannot ensure timely service to a customer because of attachment delays, that carrier is unfairly disadvantaged").

[30] NATIONAL BROADBAND PLAN at 111–12.

[31] Current rules require that the utility pole owner provide a written response within 45 days of receiving a request for access. 47 C.F.R. § 1.1403(b).

[32] DAS Forum members report instances where, despite the fact that the installation has already occurred, the utility pole owner unnecessarily delays the provision of power to the attachment.

[33] *See* Ex Parte of the Broadband & Wireless Pole Attachment Coalition, WC Docket No. 07-245, RM-11293, RM-11303, at 7 (filed Feb. 23, 2009); *DAS Forum Comments* at 9–10; *DAS Forum Reply Comments* at 12–13; *NextG Reply Comments* at 24–25; Reply Comments of MetroPCS, WC Docket No. 07-245, RM-11293, RM-11303, at 7–9; *Sunesys Comments* at 15.

[34] *See In re* Commission Concerning Certain Pole Attachment Issues, *Order Adopting Policy Statement*, Case 03-M-0432, 2004 N.Y. PUC LEXIS 306 (N.Y.P.S.C. 2004); DPUC Review of the State's Public Service Company utility Pole Make-Ready Procedures – Phase I, *Decision*, Docket No. 07-02-13, 2008, Conn PUC LEXIS 90 (Conn. P.U.C. 2008); Utah Admin. Code § R746-345-3 (2010).

fact do complete DAS attachments in many instances.[35] Both the NESC and FCC approve the use of trained third-party contractors.[36]

Practical experience has shown that it is feasible to complete make-ready work in a timely fashion, yet too often this has not happened. In order to ensure the timely deployment of DAS, the Commission should adopt the DAS Forum's proposals for the installation and construction time periods.

D. The Commission Should Establish Reasonable Rates for Wireless Attachments, Based on the Telecommunications Rate

The NATIONAL BROADBAND PLAN recognizes the disparity between the rates charged for different pole attachments and the consequential impact on deployment.[37] The rates charged for wireless attachments are at times prohibitively high, despite the fact that wireless attachments are subject to the regulated rate. The Commission should adopt the telecommunications rate for wireless attachments adjusted based upon any additional space over one foot that a wireless attachment occupies.

Many utility pole owners set rates for wireless attachments based on criteria other than reasonable cost recovery as embodied in the telecommunications rate. In some instances the annual rate represents a significant portion of the cost of installing a new utility pole. Inflated rates can rise to the level of an effective prohibition to attaching to existing poles by making such attachments economically unfeasible.

Some utility pole owners attempt to justify inflated rates for wireless attachments because, among other things, they utilize the pole top. Utility pole owners argue that this justifies

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[35] For example, a DAS Forum member reports utilizing a utility-approved, third party contractor to install a DAS network with over 400 node locations. The installation was completed safely, with minimal impact to the pole owners' operations, and in record time.

[36] *In re* Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Interconnection between Local Exchange Carriers and CMRS Providers, *Order on Reconsideration*, 14 FCC Rcd 18049, at ¶ 86 (1996); NESC Rule 235I(1) (establishing that "[c]ommunications antennas located in the supply space [be] installed and maintained only by personnel authorized and qualified to work in the supply space . . . .").

[37] NATIONAL BROADBAND PLAN at 110–11.

a premium because the pole top is a scarce space—each pole only has one top. As the DAS Forum has pointed out, all attachments occupy space on a pole to the exclusion of any other attachment—the location on the pole is irrelevant.[38] Additionally, because there are many poles in any given area, there may be many available pole tops for a given deployment.

The NATIONAL BROADBAND PLAN recommends: "The FCC should establish rental rates for pole attachments that are as low and close to uniform as possible . . . ."[39] In the effort to move towards a low, uniform rate for pole attachments, the DAS Forum encourages the Commission to apply the telecommunications rate as the base rate for wireless attachments. This standard rate is computed based on an assumption of one-foot of use. The DAS Forum concedes that wireless attachments may require more than one foot of space. Accordingly, the telecommunications rate should be increased by a multiple of the amount of feet the wireless attachment occupies.

By statute, the rate charged to pole attachers must be just, reasonable, and based on the costs of adding the attachment.[40] Like other attachments, wireless attachments should not constitute an additional revenue stream for the utility pole owners. A low, uniform rate for wireless attachments will further ensure that the deployment of DAS is not unnecessarily impeded. By ensuring that wireless attachers are charged a reasonable rate; establishing default safety and operational standards, and allowing three-months to establish enhanced standards; and adopting reasonable make-ready timeframes, the Commission can ensure the successful role of DAS in the nation's broadband future.

[38] *DAS Forum Comments* at 14.
[39] NATIONAL BROADBAND PLAN at 110.
[40] 47 U.S.C. § 224 (b)(1).

IV. CONCLUSION

DAS is an integral component of national wireless infrastructure, broadband and public safety strategies—the DAS Forum requests that the Commission take the foregoing actions to ensure its rapid deployment.

Sincerely,

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Attachments

ATTACHMENT A

This Attachment includes answers—pulled primarily from the record—to questions repeatedly raised by some electric utilities in an apparent effort to over-complicate the issue of wireless attachments. Notably, most of these issues are resolved through private negotiations between wireless attachers and utility pole owners. A sample agreement between a utility and a wireless provider is attached.

Further, many of the issues, especially on safety and operational standards, are resolved with reference to the appropriate NESC or OSHA guidelines.[41] Finally, the existence of dozens of successful outdoor DAS deployments utilizing thousands of utility poles with many different utility pole owners belies the argument that wireless attachments are unsafe or impact electricity reliability. Issues with respect to electricity reliability, safety, and operations are addressed below.

Reliability

Wireless attachments do not impact electricity reliability. To the DAS Forum members' knowledge, no record of a wireless attachment causing an electricity outage exists. Wireless attachments are engineered and are no more likely to physically interfere with energized facilities than any other attachment. In fact, with respect to the effect of ice and wind loading on reliability, wireless attachments actually pose less of a threat to reliability than other attachments.[42] According to an affidavit by an engineer submitted by DAS Forum member NextG Networks, wind and ice loading on wireless antennas is extremely small compared to even a single horizontal wireline attachment spanning two poles.[43]

[41] *See, e.g., NextG Reply Comments* at 16 & Attachment 2.
[42] *NextG Comments* at Attachment 3.
[43] *NextG Comments* at 28 & Attachment 3; *NextG Reply Comments* at 16–17.

Generally, DAS providers submit engineering assessments for every pole upon which the provider intends to attach a wireless antenna. The engineering assessment determines the ability of the pole to support any load increase caused by the antenna. In the event that a pole cannot support the attachment, DAS providers regularly replace the pole at their own cost.

The same utilities that claim issues with electricity reliability caused by wireless attachments allow macro wireless sites on high-tension transmission poles and utilize wireless antennas on poles for their own SCADA systems or smart grid deployments.[44] Electric utilities' actions with respect to revenue-generating wireless attachments and proprietary wireless attachments are inconsistent with legitimate concerns over the impact of wireless attachments on electricity reliability.

Safety

Electric utilities also raise unsupported claims regarding the safety of wireless attachments. As explained, NESC and OSHA have established guidelines for wireless attachments, which can serve as the default safety and operational standards. OSHA rules are federally mandated,[45] and many states have codified the NESC—they are reliable sources for default safety rules.

While the DAS Forum concedes that wireless attachments do present a limited number of unique safety issues, existing standards allow the safe installation and operation of wireless attachments. Further, many commenters in this docket have demonstrated that wireless antennas can be installed and accessed safely, by actually installing and operating DAS systems. The mere

[44] For example, a DAS Forum member reports that a pole owner declined access to pole tops over primary distribution lines, citing operational and safety concerns. However, that same pole owner placed its own antennas for its SCADA system on the tops of its poles.

[45] While individual states may adopt their own workplace-safety regulations, of the twenty-two that have, most are identical to the OSHA rules. *See* OSHA Standards, Electric Power Generation, Distribution, and Transmission Industry, http://www.osha.gov/SLTC/powergeneration/standards.html (last accessed Mar. 31, 2010).

fact that there are dozens and dozens of outdoor DAS systems deployed with antennas on the tops of many utility poles belies the claims that wireless attachments are inherently dangerous.

The equipment and antennas utilized by DAS providers are certified by the FCC, and must operate within allowable power limits. DAS Forum members report that DAS antennas operate at significantly lower power levels than allowed under FCC rules. Despite the lack of a significant safety threat, DAS providers ordinarily establish a turn-off protocol for antennas, and many DAS providers include cut-off switches on any pole with a wireless attachment.

If the antenna is located at the pole top in compliance with NESC, it will not affect climbing clearances. Modifications can be made to risers and associated equipment attachments in order to preserve climbing space clearances, particularly for poles that are not bucket-truck accessible. These modifications are routinely made by the utility companies and wireline attachers, and are not unique to wireless attachments.

Further, NESC and OSHA contain effective standards governing the installation and access to wireless antennas on utility poles. As identified in comments in the above captioned docket, the following NESC rules, among others, apply to wireless attachments:[46]

- Rule 222 (Joint use structures)
- Rule 224A (Communications circuits located within the supply space and supply circuits located within the communications space)
- 230A(3)-(4) (Measurement of clearance and spacing; Rounding of calculation results)
- Rule 235I (Clearances in any direction from supply line conductors to communication antennas in the supply space attached to the same supporting structure)
- Rules 236-238 (Climbing space; Working space and vertical clearance between certain communications and supply facilities located on the same structure)
- Rule 239H (Requirements for vertical communication conductors passing though supply space on jointly used structures)
- Rule 420Q (Communication antennas)

[46] See *NextG Comments* at 17–18 & Attachment 2.

A recent filing on behalf of several electric utilities highlights the lack of any evidence that wireless attachments pose an undue safety risk. The filing states with respect to wireless attachments: "The record to date is grossly inadequate for the Commission to appreciate the seriousness of this issue or to impose these types of risky requirements . . . ."[47] The record in this proceeding dates back to 2007, and contains a significant discussion of the ability to safely deploy DAS networks.[48] If the record does not contain evidence of the "seriousness" of "risky" wireless attachments, it is because the evidence does not exist.

Operational

The claimed operational concerns are varying, but tend to focus on the procedures for installation, access for maintenance, and emergency situations.

With respect to installation and pole access, DAS providers utilize utility-approved, certified linemen for work above the power space, or if specified in the contract, rely solely on the pole owner, which is paid in full by the DAS providers. The electric utility linemen can also receive any training necessary to ensure their safety, if they have not already. As explained, electric utilities increasingly utilize wireless attachments for proprietary communications and

[47] Ex Parte by the Coalition for Concerned Utilities, WC Docket Nos. 07-245, 09-154; GN Docket Nos. 09-29, 09-51, at 3 (filed Feb. 26, 2010).

[48] *T-Mobile Reply Comments* at 12 (noting that "all T-Mobile pole attachments are compliant with NESC, OSHA and other applicable safety requirements"); *CTIA Comments* at 15 (noting that "[t]o ensure safe installations, wireless providers strictly adhere to the [NESC], FCC regulations, [OSHA] rules, Environmental Protection Agency ("EPA") regulations and state building code standards, among others"); *NextG Comments* at 30 (noting that safety concerns are unfounded because they are "already adequately addressed in the NESC and/or FCC and Occupational Health and Safety Administration ("OSHA") regulations"); *NextG Reply Comments* at 17–18 (noting that "installation and maintenance of wireless attachments are already addressed and governed by the National Electrical Safety Code ("NESC") and FCC and OSHA regulations which are specifically designed and intended to ensure safety for the public and workers"); *Crown Castle Comments* at 8 (noting that a "blanket prohibition or highly restrictive policies are unwarranted because there are many instances in which DAS antennas can safely be deployed in the electrical supply space on top of the pole"); Comments of ExteNet, WC Docket No. 07-245, RM-11293, RM-11303, FCC-07-187, at 7–8 (filed Mar. 7, 2008); *DAS Forum Comments* at 7–9.

smart grid applications. As these installations, along with DAS, become more prevalent, the size of the qualified workforce will increase accordingly.

DAS networks are designed to minimize the need to access the antenna after it has been installed. DAS antennas are typically weather-hardened. DAS providers follow the NESC and industry practices in doing visual inspections to ensure the antenna is fastened securely to the pole, and where necessary, conduct pole-top inspections. If an antenna does need maintenance work, it is typically accessed by bucket-truck. The equipment on a DAS network that sometimes requires maintenance, sometimes referred to as the node equipment,[49] is located in the unusable space or off the pole entirely, thereby alleviating any safety or reliability issues.

Most DAS node installations are constantly monitored from the provider's Network Operations Center ("NOC"). Information regarding network outages is transmitted directly to the NOC, which triggers an internal response. Any network issues are generally resolved quickly, as wireless services are essential to public safety. All DAS attachments must be tagged with the company name and NOC phone number, which may be called in the event a line worker at the pole has any questions or concerns. DAS providers typically request in pole attachment contracts that the utility company call the NOC in the event it needs to shut down the antenna equipment. Through cooperation, DAS providers and pole owners are able to work together in a way that does not compromise the safety of the workers or the reliability of the infrastructure on the pole.

[49] Node equipment includes, but is not limited to, radio amplifier or remote radio head, power supply, connecting cables, and switches.